

CLAIMS

1. An air suspension anti-roll stabilisation system (51; 71; 81) comprising air suspension means, such as at least one pair of air bags (52; 72; 82) air spring mounted upon an axle (53; 73; 83) via leaf spring suspension arms (56; 76; 86; 126; 136) of an associated vehicle on respective opposed sides of the longitudinal axis of the vehicle, with the axle (53; 73; 83) being located at least partially with respect to the frame or chassis (55; 79; 92) of the vehicle by means of a pair of leaf spring arms (56; 76; 86; 126; 136) which are located on respective opposed sides of the longitudinal vehicle axis and of which each has one end (57; 77; 84; 124) mounted pivotally to the vehicle frame or chassis (55; 79; 92),

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15 characterised in that anti-roll means (65; 75; 85; 105; 125; 135) is connected rigidly between the pair of longitudinal leaf spring suspension arms (56; 76; 86; 126; 136)

2. A system (51; 71; 81) according to claim 1, wherein said anti-roll means (65; 75; 85; 125; 135) is connected at or adjacent the points at which the one end (57; 77; 84; 124) of each arm (56; 76; 86; 126; 136) is pivotally attached to the frame or chassis (55; 79; 92) of the associated vehicle.

20 3. A system (51; 71; 81) according to claim 1 or 2, wherein said anti-roll means (65; 75; 85; 125; 135) comprises an anti-roll bar or tube.

25 4. A system (51; 71; 81) according to any of claims 1, 2 or 3, wherein said anti-roll means (65; 75; 85; 125; 135), which extends transversely of the longitudinal axis of the associated vehicle, is arranged to add bending stiffness

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to the longitudinal suspension arms (56; 76; 86; 126; 136) during vehicle roll.

5. A system (51; 71; 81) according to claim 2 or any claim dependent thereon, wherein said anti-roll means (65; 75; 85; 125; 135) is arranged to add transverse, torsional stiffness close to those pivot points.

6. A system (51; 71; 81) according to any preceding claim, wherein the longitudinal suspension arms (56; 76; 86; 126; 136) upon which the air bags (52; 72; 82) or other air suspension means are mounted, are converted from acting as beams which are pivotally mounted at their one ends to the frame or chassis (55; 79) of the vehicle, to beams which are fixed or tending towards "encastre" at those one ends (57; 77; 84; 124), during roll motion of the vehicle

15 7. A system (51; 71; 81) according to any preceding claim further arranged to allow the associated pivot points to rotate in opposite directions during vehicle roll, whilst rotating in the same direction in normal, straight axle ride.

20 8. A system according to claim 1, wherein said anti-roll means (65; 75; 85; 125; 135) is locatable at various points along the length of the suspension arm (56; 76; 86; 126; 136), the position being related to the anti-roll stiffness and stability afforded thereby.

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